

THREE NEW SPECIES AND ONE NEW VARIETY OF ALOE FROM KARAMOJA, UGANDA.

By G. W. REYNOLDS.

(With Plates XXIII—XXVIII.)

Karamoja is that portion of the Northern Province of Uganda lying to the north of the foothills of Mount Elgon and the Suam River, east of Teso and Acholi, south of the Sudan border, and west of the Turkana (Kenya) border.

During the last six years Mrs. E. M. Tweedie has sent many Aloe plants from Karamoja to Johannesburg; some she collected herself, while others were collected by Mr. H. Wreford Smith, Mr. T. H. E. Jackson, and Mr. J. T. Wilson, who have all travelled extensively throughout Karamoja. When some plants flowered in Johannesburg they proved to be undescribed species, and I was eager to study them in the wild state.

At the invitation of Colonel and Mrs. D. R. Tweedie I flew to Nairobi in October 1955, and travelled by road to Kitale and on to their delightful home "Mutamayo" on lower slopes of Mount Elgon near Endebess.

Colonel and Mrs. Tweedie very generously provided the transport, and together we travelled more than 900 miles in Karamoja.

The route led northwards from Kitale, down the spectacular Kacheliba Pass to the plains, rich in Aloe. We visited Amudat, Moroto, Kotido and Loyoro in the far north, and then went to the Labwor Hills south-west of Kotido. On the return journey we went from Moroto down Napau Pass to the border of Turkana.

A. Tweediae Christian was found in large numbers almost throughout Karamoja, and proved to be the commonest Aloe of that country.

A. marsabitensis Christian was seen near Kotido, and especially a few miles west of Loyoro in the north. A few plants of *A. turkanensis* Christian were observed near Amudat and Mount Toror, also in Turkana at the type locality. On some mountain slopes (Kacheliba, Kadam, Moroto) a shrubby Aloe was seen, but could not be recognised without flowers.

Herbarium material of all Aloe species found in flower has been contributed to Pretoria, Kew and Nairobi, together with many photographs.

Three new species and one new variety were investigated and can now be described.

Aloe amudatensis Reynolds. Species nova in Sect. *Saponariae*.

Planta succulenta, acaulescens, mox caespitosa. *Folia* 10—14, dense rosulata, erecto-patentia, anguste lanceolato-attenuata, 22 cm. longa, 5 cm. lata, 8 mm. crassa; supra leviter canaliculata, subtus convexa, utrinque viridula, maculis oblongis numerosis transverse irregulariter fasciatim seriatim picta; ad margines sinuato-dentata, dentibus albidis 2 mm. longis, 5—8 mm. distantibus. *Inflorescentia* 50—65 cm. alta, simplex vel interdum supra medium 1—2 ramosa. *Racemi* cylindrici, ca. 8 cm. longi, 6—7 cm. diam. *Bractee* anguste ovato-deltaeidae, 10 mm. longae, 3 mm. latae, scariosae, 3—5-nervatae. *Pedicelli* ca. 17 mm. longi. *Perigonium* corallinum, ca. 23 mm. longum, basi inflatum et circa ovarium 9 mm. diametro, supra ovarium valde constrictum (6 mm.) hinc leviter decurvatum et fauces versus paulum ampliatum; segmenta exteriora per 7 mm. libera, obscure 3-nervata, interiora latiora. *Antherae* 0—1 mm. exserta. *Stigma* demum 1—2 mm. exserta. *Ovarium* 6 mm. longum, 2 mm. diametro. (Plate XXIII.)

Uganda: Northern Province, Karamoja, Upe County, at Amudat, c. 1° 58' N., 34° 57' E., 4,400 ft., fl. 21 Oct. 1955, Reynolds 7996 holotype (PRE), isotype (K, EA); Dodoth County, 7 miles west of Loyoro, c. 3° 13' N., 34° 12' E., 4,500 ft., fl. 14 Oct. 1955, Reynolds 7965 (PRE); Matheniko County, at Lokitanyala (37 miles north of Amudat), form with yellow flowers, fl. 20 Oct. 1955, Reynolds 7988 (PRE); Tweedie 670 (K).

A. amudatensis was collected by Mrs. E. M. Tweedie several years ago and sent to Kew under her number 670. Our new species differs from its nearest East African allies in the Section *Saponariae* by being a smaller plant, and in having narrow leaves only 5—6 cm. broad with white cartilaginous margins armed with small firm almost white teeth only 1—2 mm. long. The inflorescence is mostly simple, averaging 50—65 cm. tall; sometimes it is 1—2-branched in upper third; and flowers vary in length, and in the diameter of the basal swelling. Plants are acaulescent, sucker freely and form small to large dense groups.

DISTRIBUTION: *A. amudatensis* was seen almost throughout Karamoja, from the Suam River to Amudat (91 miles north of Kitale) in the south, to Moroto, Toror, Kotido, Madang, and south and west of Loyoro in the north. Yellow and orange forms occur at Lokitanyala between the Moroto turn-off and the top of Napau Pass which leads down to Turkana in Kenya. A few plants were seen in Kenya Colony between the foot of the Kacheliba Escarpment and the Suam River.

NATURAL HYBRID: *A. Tweediae* Christian occurs in large numbers near Amudat (type locality), and crosses with *A. amudatensis* were observed among both parents.

DESCRIPTION: *Plant* succulent, acaulescent, freely suckering and forming small to large dense groups.

Leaves about 12, densely rosulate, erectly spreading, narrowly lanceolate-attenuate, averaging 22 cm. long, 5 cm. broad, 8 mm. thick low down; *upper surface* dull green, sometimes reddish-brown tinged, slightly canaliculate, with numerous lenticular whitish spots or blotches throughout; *lower surface* convex, milky-green, usually with numerous dull very pale greenish lenticular spots or blotches varying from irregularly scattered to more or less confluent into a series of irregular interrupted transverse wavy bands; *margins* sinuate-dentate, with whitish cartilaginous edge armed with small, firm, rather white, deltoid teeth which average 2 mm. long, 5—8 mm. apart, pale reddish-brown at apices only. *Inflorescence* mostly simple, averaging 50—65 cm. high, sometimes with 1—2 branches high up.

Peduncle basally plano-convex and 10 mm. broad, terete upwards, brownish-green with a bloom, sometimes with 1 or 2 branches in upper third.

Racemes cylindric, slightly conical, averaging 8 cm. long, 6—7 cm. diam., subaxly flowered, the apex a small tuft of dried bracts, youngest buds suberect, grey-green tipped, older buds spreading, open flowers subpendulous.

Bracts narrowly ovate-deltoid, 10 mm. long, 3 mm. broad, thin, subscariosus, 3—5-nerved.

Pedicels averaging 17 mm. long, arcuate-spreading, nutant at apex.

Perianth rose-pink to coral-red, averaging 23 mm. long, basally inflated and 9 mm. diam. across the ovary, thence abruptly constricted to 6 mm., thence slightly decurved and enlarging to the throat, the mouth trigonous, wide open; *outer segments* free for 7 mm., paler at the margins, obscurely 3-nerved, the apices subacute, slightly spreading; *inner segments* broader than the outer, with more obtuse more spreading apices.

Filaments lemon, filiform-flattened, the 3 inner narrower and lengthening before the 3 outer with their *anthers* in turn exserted 0—1 mm.

Style pale yellow, with stigma at length exserted 2 mm.

Ovary yellowish-green, 6 mm. long, 2 mm. diam.

***Aloe Wilsonii* Reynolds.** Species nova, forsitan in Sect. *Tropicales* Berger pertinet; *A. Tweediae* Christian affinis, sed, inter alia, perigonio basi obconico differt.

Planta succulenta, breviter caulescens, interdum caudice 50—80 cm. *Folia* ca. 24, dense rosulata, lanceolato-attenuata, patentia, 25 cm. longa, 9 cm. lata, 2 cm. crassa; supra planiuscula vel leviter canaliculata, subtus convexa; utrinque saepe immaculata; ad margines sinuato-dentata, dentibus deltoideis, 3—4 mm. longis, 10 mm. distantibus. *Inflorescentia* paniculata, 50—60 cm. alta. *Pedunculus* ca. 8-ramosus. *Racemi* cylindrico-acuminati, 15—18 cm. longi, 5—6 cm. diam. *Bractae* ovato-acuminatae, scariosae, 5 mm. longae, 3 mm. latae, 1-nervatae. *Pedicelli* 15 mm. longi. *Perigonium* coccineum, cylindricum, 2—8 mm. longum, basi obconicum, circa ovarium 7 mm. diametro; *segmenta exteriora* per 14 mm. libera. *Antherae* 1—2 mm. exsertae. *Stigma* demum 2—3 mm. exserta. *Ovarium* 6 mm. longum, 3 mm. diametro. (Plates XXIV, XXV.)

Uganda: Northern Province, Karamoja, Matheniko County, Mount Moroto near Imagit Peak, 8,500 ft., c. 2° 45' N., 34° 44' E., cult. hort. Tweedie, Mutamayo (near Endebess, Kenya) fl. 30 Oct. 1955, Tweedie 1365 (Reynolds 8004) holotype (PRE), isotype (EA).

A. Wilsonii is named after Mr. John T. Wilson, Ecologist, Department of Agriculture, Moroto, who first discovered the species, and to whom I am indebted for sending plants to Johannesburg, and for photographs and much data concerning the Aloes of Karamoja.

When I visited Karamoja in October 1955, Mr. Wilson and I climbed 3,000 ft. up a spur leading to Imagit Peak, Mount Moroto. The Aloes were found on rocky slopes near the summit in advanced bud, but no flowers were open. A plant was photographed in bud (Plate XXIV) and part of the description was drawn up.

A week later I found a plant flowering in the garden of Mrs. E. M. Tweedie, "Mutamayo", Endebess near Kitale, Kenya Colony, and completed the description. This plant had originally been collected by Mr. Wilson on Mount Moroto, near Imagit Peak.

On Mount Moroto, plants are solitary, acaulescent, or sometimes develop a decumbent smooth stem 50—80 cm. long. Mr. Wilson has also found this species on north-western slopes of Kadam Mountain (Debasien), about 40 miles south of Moroto, at 5,000—8,000 ft., c. 1° 49' N., 34° 42' E. At this locality, Mr. Wilson found some plants solitary, and others forming small groups.

A striking character of *A. Wilsonii* is the very acuminate racemes that taper to an acute point. The youngest buds, not hidden by bracts, are round-oval, and only 1—2 mm. long. The perianth is basally rather obconical and tapers into the pedicel articulation, while outer segments are free to the middle.

A. Wilsonii is a very distinctive species, and does not appear to be closely allied to any species of Aloe hitherto described.



FIG. 1

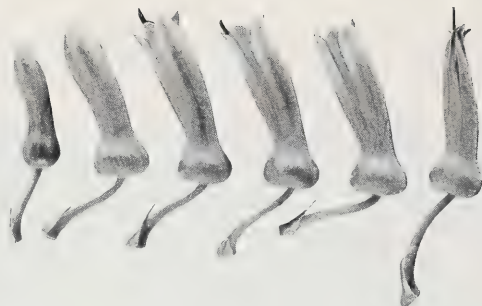


FIG. 2

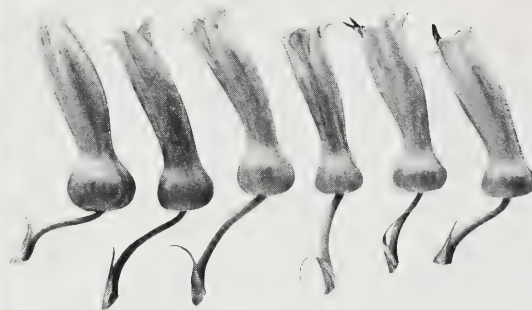


FIG. 3

PLATE XXIII. *Aloe amudatensis* Reynolds

FIG. 1.—Plants at Amudat, Upe County, Karamoja, Uganda, c. $1^{\circ} 58' \text{ N.}$, $34^{\circ} 57' \text{ E.}$, 4,400 ft., fl. 21 October, 1955, height 60 cm.

FIG. 2.—Flowers 1/1 from bud to post-pollination stage.

FIG. 3.—Various flowers 1/1 showing variation.



Fig. 1.

PLATE XXIV. *Aloe Wilsonii* Reynolds.

Fig. 1.—Plant $\times 1/7$ approx. near Inagiti Peak, Mount Moroto, Karamoja, Uganda, c. 2° 45' N., 34° 44' E., 8,500 ft., in bud 19 October, 1955.
 Fig. 2.—The same plant, cult. Moroto, the second inflorescence having developed; 20 November, 1955. (Photo: Mr. J. T. Wilson.)



Fig. 2.



PLATE XXV. *Aloe Wilsonii* Reynolds.

Flowers 1/1 from bud to post-pollination stage, from a plant ex Imagit Peak, cult.
hort. Tweedie, Mutamayo.



FIG. 1.
PLATE XXVI. *Aloe Schweinfurthii* Bak. var. *labworana* Reynolds.



FIG. 2.

FIG. 1.—Plant from the Labwor Hills, Karamoja, Uganda,
cult. Johannesburg, fl. 27 March, 1955. Height
90 cm.

FIG. 2.—Flowers 1/1 from bud to post-pollination stage.

It may perhaps fall under Berger's section *Tropicales*, but many of Berger's sections and series now need drastic revision.

A. Tweediae Christian is allied in habit of growth, branching of the inflorescence and cylindric perianth with a definite tube, but the perianth of *A. Tweediae* is basally rounded, and not obconical as in *A. Wilsonii*. The apical buds of *A. Wilsonii* are also considerably smaller.

NATIVE NAME: *Echuchukua* (Karamojong), used throughout Karamoja for Aloe in general—*J. T. Wilson*.

DESCRIPTION: *Plant* succulent, solitary or sometimes in small groups.

Stem short, or sometimes 50—80 cm. long, 6 cm. diam., decumbent, glabrous, old leaves not persistent.

Leaves about 24, densely rosulate, lanceolate-attenuate, erectly spreading to spreading, up to 25 cm. long, 9 cm. broad at base, 2 cm. thick low down; *upper surface* flat to slightly canaliculate, unicoloured deep green with yellowish tinge, slightly glossy, without spots or markings; *lower surface* convex, of similar colour to upper surface, usually without but sometimes with a few crowded white spots in lower quarter; *margins* sinuate-dentate, with pale brown horny edge armed with flat-deltoid pungent reddish teeth averaging 3—4 mm. long, 10 mm. distant.

Inflorescence a branched panicle 50—60 cm. high, sometimes 2 consecutively.

Peduncle basally plano-convex and 25 mm. broad, brown with a bloom, minutely white-speckled throughout, branched from below the middle with about 8 arcuate-ascending branches, the lowest branch subtended at base by a fleshy, 3-nerved, broadly ovate-acute bract 10 mm. long, 20 mm. broad.

Racemes cylindric-acuminate, erect, 15—18 cm. long, 5—6 cm. diam., rather laxly flowered, the lowest flowers 10—15 mm. apart, gradually denser upwards, the youngest buds suberect, round-oval and only 1—2 mm. long, older buds grey-green tipped, erectly spreading, open flowers cernuous to sub-pendulous.

Bracts ovate-acuminate, the lowest 5 mm. long, 3 mm. broad, white, thin, scarious, 1-nerved.

Pedicels reddish-brown, suberect, 15 mm. long, nutant at apex.

Perianth dull scarlet with a bloom, cylindric, 28 mm. long, obtusely obconical at base and shortly stipitate, cylindric and 7 mm. diam. across the ovary, thence slightly trigonous to the mouth; *outer segments* free for half their length (tube 14 mm.), pale lemon at the edges, 3-nerved, apices subacute, spreading; *inner segments* free but dorsally adnate to the outer to the middle, broader than the outer, with broad pale borders scarlet-keeled, the apices brownish-tipped on the inside, more obtuse and more spreading than the outer.

Filaments lemon, filiform-flattened, the 3 inner narrower and lengthening before the 3 outer with their *anthers* in turn exerted 1—2 mm.

Style pale yellow, with *stigma* at length exerted 2—3 mm.

Ovary deep green, 6 mm. long, 3 mm. diam.

***Aloe Schweinfurthii* Bak. var. *labworana* Reynolds.** Varietas nova, a forma typica foliis longioribus, racemis brevioribus et densioribus, et praesertim rache et pedicellis et floribus concoloribus luteis differt.

Uganda: Northern Province, Karamoja, Labwor Hills, at Abim, 6 miles S.W. of Rwot, 41 miles S.W. of Kotido, c. 2° 47' N., 33° 38' E., c. 4,500 ft. (coll. T. H. E. Jackson), fl. 15 Oct. 1955, Reynolds 7980 holotype (PRE), isotype (K, EA); Labwor Hills, Aremo, 58 miles S.W. of Kotido, c. 2° 30' N., 33° 53' E., (coll. T. H. E. Jackson), cult. Kitale, fl. 25 Oct. 1955, Reynolds 8006 (PRE, EA, K); Labwor Hills, Loyoit, 30 miles S.W. of Kotido, c. 2° 46' N., 33° 41' E. (coll. H. Wreford Smith), cult. Johannesburg, fl. 27 March 1955, Reynolds 6274 (PRE, K). (Plate XXVI)

The typical form of *A. Schweinfurthii* Bak. on Mount Bangeze, Equatoria, Sudan, was described and figured in this *Journal* 20: 165—168 (1954). Our new variety comes from the Labwor Hills, south-west of Kotido in Karamoja, Uganda, and is named after the locality which appears to be its headquarters.

A few years ago, Mr. H. Wreford Smith collected plants at Loyoit, about 30 miles south-west of Kotido, and sent them to Mrs. E. M. Tweedie who sent two plants to me. These plants have grown well in Johannesburg and when they flowered they differed sufficiently from typical *A. Schweinfurthii* to merit at least varietal rank.

In October 1955, I visited Loyoit but found no plants in flower. Mr. T. H. E. Jackson however went further afield and he kindly brought in flowering plants from Abim and Aremo further south-west, from which photographs were secured and herbarium material made.

The var. *labworana* closely resembles typical *A. Schweinfurthii* in habit of growth, leaves and markings, small 1-nerved bracts, pedicels and shape and size of flowers, but differs in having comparatively longer leaves with larger marginal teeth, and a more branched inflorescence with shorter denser racemes of yellow flowers. The most striking difference is that the rachis, pedicels and flowers are all of a uniform yellow colour.

DESCRIPTION: *Plant* succulent, of medium size, acaulescent, suckering at ground level and forming groups.

Leaves 12—16, rosulate, erectly spreading, narrowly lanceolate-attenuate, recurved in upper quarter, 60—80 cm. long, 7—8 cm. broad at base, 2 cm. thick low down; *upper surface* flat to slightly canaliculate, bluish-green with a grey powdery bloom, with numerous very pale-

greenish spots throughout, the spots lenticular, 3—6 mm. long, 1—2 mm. broad at the middle; *lower surface* convex, greyer-green than upper surface, more copiously spotted throughout, the spots smaller and more crowded; *margins* sinuate-dentate, armed with pungent deltoid reddish-tipped teeth which are 5—6 mm. long, 12—20 mm. distant, with rounded interspaces. *Sap* dries yellowish.

Inflorescence a divaricately many-branched panicle up to 90 cm. high.

Peduncle brown, basally plano-convex and 20—25 mm. broad, divaricately branched from the middle or lower, with 10—12 arcuate-ascending branches, the 1—2 lowest with 3—4 branchlets.

Racemes cylindric, slightly conical, 8—9 cm. long, 5 cm. diam., youngest buds suberect, denser, open flowers laxer, nutant to subpendulous, the whole raceme (axis, pedicels and flowers) uniformly yellow.

Bracts ovate-acute, about 2 mm. long and broad, clasping the pedicel, thin, scarious, 1-nerved.

Pedicels yellow, 10 mm. long.

Perianth yellow, 28 mm. long, cylindric, slightly trigonous, basally obtuse, 6—7 mm. diam. across the ovary, thence very slightly narrowed on the underside and enlarging slightly to a wide open mouth; *outer segments* free for 9 mm. (definite tube of 19 mm.), with 3 greenish nerves throughout, the apices subacute, slightly spreading; *inner segments* themselves free but dorsally adnate to the outer to beyond the middle, broader than the outer, keeled, the apices more obtuse and more spreading than the outer.

Filaments very pale lemon, filiform-flattened, the 3 inner narrower and lengthening before the 3 outer with their *anthers* in turn exerted 3—4 mm.

Style pale yellow. *Stigma* at length exerted 5 mm.

Ovary pale green, 5 mm. long, 2.5 mm. diam.

***Aloe Wrefordii* Reynolds.** Species nova (Sect. *Grandes-Tropicales*), *A. abyssinica* Lam. affinis, inflorescentia altiore plus ramosa differt.

Planta succulenta, saepissime acaulescens. *Folia* ca. 24, dense rosulata, lanceolato-attenuata, patentia, ca. 60 cm. longa, 15 cm. lata, 15 mm. crassa; supra planiuscula vel superne leviter canaliculata, obscure lineata; subtus convexa; ad margines sinuato-dentata, dentibus deltoideis 4 mm. longis, 10—15 mm. distantibus munita. *Inflorescentia* paniculata, ca. 120 cm. alta. *Racemi* subcapitata, 4—5 cm. longi, 6 cm. diam. *Bracteae* ovato-acutae, 9 mm. longae, 4 mm. latae, albae scariosae, 5-nervatae. *Pedicelli* 16 mm. longi. *Perigonium* coccineum vel aurantiacum, cylindrico-clavatum, 22 mm. longum, circa ovarium 5—6 mm. diam.; *segmenta*

exteriora per 13 mm. libera; tubus 8 mm. *Antherae* 3—4 mm. exsertae. *Stigma* demum 5 mm. exserta. *Ovarium* 6 mm. longum, 3 mm. diametro.

Uganda: Northern Province, Karamoja, Matheniko County, Katumet, 12 miles south-east of Moroto, c. 2° 24' N., 34° 45' E., 4,900 ft., cult. hort. Tweedie, Mutamayo, fl. 21 Jan. 1956, Tweedie 659, holotype (PRE), isotype (EA, K), stony foothills, Mt. Moroto, Nov. 1945, Tweedie 659 (K).

Our new species is named after Mr. H. Wreford Smith who has travelled extensively throughout Karamoja and who first discovered plants at Katumet, 12 miles south-east of Moroto in 1940. Subsequently Mrs. E. M. Tweedie found the species at another locality nearby. and sent material to Kew under her number 659.

In October 1955 I saw plants at these localities but none was in flower. Recently Mr. John T. Wilson, ecologist at Moroto, found several plants at Rupa, 9 miles north-east of Moroto, in stony thorn and bush country. When I visited Rupa, no plants were in flower, but part of the description was drawn up from the material available. A photograph was secured of a large plant in fruit. (Plate XXVII.).

When one of the plants originally collected by Mrs. Tweedie near Moroto flowered in her garden at Mutamayo, she had it photographed and prepared adequate herbarium material. Mrs. Tweedie also sent several mature racemes in spirit to me by air, from which I was able to complete the description and photograph the flowers natural size. (Plates XXVII, XXVIII).

Up to the present, *A. Wrefordii* has been found only on lower foothills of Mount Moroto. A plant that I collected in 1953 near Yavello, in Borana, Southern Ethiopia, has not flowered in Johannesburg, but judging from the rosette and leaves, it might belong here.

A. Wrefordii appears to be nearest related to *A. abyssinica* Lam., but differs in having different leaves and a much taller much more branched inflorescence.

In size, leaves and tall much-branched inflorescence *A. Tweediae* Christian is a near ally, but *A. Tweediae* differs in having much longer laxer racemes of very differently shaped flowers.

A. calidophila Reynolds, from between Moyale and Mega in Southern Ethiopia, is another near ally in shape and size of flowers, but that species is shrubby and has longer racemes, and longer deeply channelled recurved leaves.

A. eru Berger is also closely related to *A. Wrefordii* in pedicels, bracts, and short cylindric-clavate flowers, but the former is of shrubby growth, and has longer narrower spotted leaves and a lower inflorescence with longer racemes.



FIG. 1.



FIG. 2.

PLATE XXVII. *Aloe Wrefordii* Reynolds.

FIG. 1.— Plant in natural habitat at Rupa, 9 miles N.-E. of Moroto, Karamoja, Uganda, in fruit and seed, 18th October, 1955. Height 130 cm.

FIG. 2.— Plant ex near Moroto, cult. hort. Tweedie, fl. 21st January, 1956. Height 110 cm. (Photo: S.A. Embleton, Kitale.)



FIG. 1.

PLATE XXVIII. *Aloe Wrexfordii* Reynolds.



FIG. 2.

FIG. 1. -Portion of inflorescence, $\times 18$ approx. (Photo: S.A. Embleton, Kitale.)

FIG. 2. Flowers 1/1 from bud to post-pollination stage.

A. Wrefordii occurs as solitary plants, with little or no stem, and has a tall many-branched inflorescence bearing capitate racemes of cylindric-clavate flowers 22 mm. long. Nothing approaching it in floral characters was seen throughout Karamoja.

DESCRIPTION: *Plants* solitary, not forming groups, acaulescent or with very short stem.

Leaves about 24, densely rosulate, lanceolate-attenuate, suberectly spreading and recurved in upper quarter, about 60 cm. long, 15 cm. broad at base, 15 mm. thick, the acute apex a reddish-brown spine; *upper surface* dull grey-green, sometimes with reddish-brown tinge, mostly without spots or markings, very obscurely lineate, flat low down, canaliculate upwards; *lower surface* convex, pale grey-green, without markings; *margins* sinuate-dentate, armed with reddish-brown deltoid pungent teeth 4 mm. long, 10—15 mm. distant, forward-uncinnate, the interspaces the colour of the leaf. *Sap* dries yellow.

Inflorescence a compactly branched panicle about 120 cm. high, sometimes 2—3 consecutively.

Peduncle basally plano-convex and 20—25 mm. broad, branched well below the middle, with up to 16 ascending branches, the lowest 1—2 branches with 2—5 branchlets producing a total of up to 25 racemes.

Racemes sub-capitate, the pedicellate portion of terminal racemes 4—5 cm. long, 6 cm. diam., laterals slightly shorter, densely flowered, the apex a small tuft of dried bracts, youngest buds green-tipped, sub-erect, older buds spreading, open flowers nutant to subpendulous.

Bracts ovate-acute, 9 mm. long, 4 mm. broad, very thin, white, scarious, about 5-nerved.

Pedicels lowest 16 mm. long, slightly shorter upwards, 20 mm. in the fruit.

Perianth scarlet or orange, cylindric-clavate, 22 mm. long, obtusely tapering at base to the pedicel articulation, shortly stipitate, cylindric and 5—6 mm. diam. across the ovary, thence narrowly clavate, the mouth slightly up-turned; *outer segments* free for 13 mm. (tube about 8 mm.), 3-nerved, apices subacute; *inner segments* broader than the outer, with broad white border and 3 crowded nerves forming a keel, the apices more obtuse and more spreading than the outer.

Filaments pale lemon, the 3 inner narrower and lengthening before the 3 outer with their *anthers* in turn exerted 3—4 mm.

Stigma at length exerted 5 mm.

Ovary olive, 6 mm. long, 3 mm. diam., obtuse at apex.

ACKNOWLEDGMENTS.

To Colonel and Mrs. D. R. Tweedie I am particularly grateful for providing transport, camping equipment and provisions, and for conducting me for over 900 miles through Karamoja, and to Mrs. Tweedie for preparing herbarium material, sending photographs and spirit material, for many plants sent by air to Johannesburg, and for much more.

To Mr. T. H. E. Jackson for bringing in flowering plants of *A. Schweinfurthii* var. *labworana* from two localities in Labwor, and for much other assistance.

To Mr. Wreford Smith for searching for Aloes throughout Karamoja for several years, and for sending valuable material to me through Mrs. Tweedie.

To Mr. John T. Wilson, Ecologist, Moroto, for plants, photographs, much data concerning the Aloes of Karamoja, and especially for leading me 3,000 feet up Mt. Moroto to the locality of a new species.

I am indebted to the South African Council for Scientific and Industrial Research for a travelling grant which enabled me to visit Karamoja to investigate the Aloes.